Formal vs Informal English in writing

* Difference between formal and informal:

- Formal language is less personal than informal language.
- Used When: → Writing for professional or academic purpose like: university assignments.
- Informal language is more casual and spontaneous!
- Used When: → Communicating with friends or family either in writing or in a conversation.

⚠ Things to avoid in formal english writing:

Contractions

1

Use this instead of the one in informal

formal

- No contractions
- e.g: Did not (full form)

Informal

- Uses contractions
- e.g: didn't (short form)

!! No ≠ X

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② Idioms

* "A piece of cake" ⇒ very easy.
* "I've been very under the weather" ⇒ I've been very sick

③ Phrasal verbs

- for example : find out, pick up, get out.

Verbs + preposition (of, at, in, up, ...)

Informal	formal
find out	Discover.
Go up	Increase

④ Imperatives

* Sentences that start with a verbs.

Example :

- Send it soon ⇒ you may send it at your earliest convenience.

⑤ The use of "I" or "We"

→ formal writing is not personal.

→ No use of "I" and "We" in formal english.

Example :

- Informal : I considered various research methods for the study.
- Formal : Various research methods were considered for the study.

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6 Abbreviations / Acronyms

Informal → **Formal**

TV (Abbreviation) → Television

CAD (acronyms) → Computer-assisted design

ASAP (acronyms) → As soon as possible

- Write the name in full with the acronym in brackets after it.

7 Other differences

Informal:	Formal:
. Very, really, totally	→ Strongly
. On top of it all	→ Furthermore, Besides, Moreover.
. !	→ No exclamation marks.
. A lot	→ Many / much

Letter expressions

- Hi Robert,
  ⇒ Dear Sir or Madam
- Just wanted to let you Know.
  ⇒ I am writing to inform you.

- Love, Cheers, yours truly, Best regards, Kind regards.
  ⇒ yours sincerely, yours faithfully.
- Hope to hear from you soon.
  ⇒ I look forward to hearing from you

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* Introduction to the field of engineering *

- Main disciplines:
  - → Mathematics
  - → Chemistry
  - → Physics
- Other interdisciplinary fields:

→ **Materials science**

↝ It's the design and discovery of new materials, particulary "solids".

→ **Solid materials**

↝ A scientific field that studies the behavior of solid materials, especially their motion and deformation under the action of forces

→ **Fluid mechanics.**

↝ the study of forces within fluids.

→ **Thermodynamics**

↝ Branch of physics that deals with the relations between heat and other forms of energy.

→ **Transfer process**

↝ Branch of chemical for physical process that involve diffusive and convective transport of chemical species within physical systems.

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→ Rate process:
↝ the speciality at which a manufacturing step is carried out

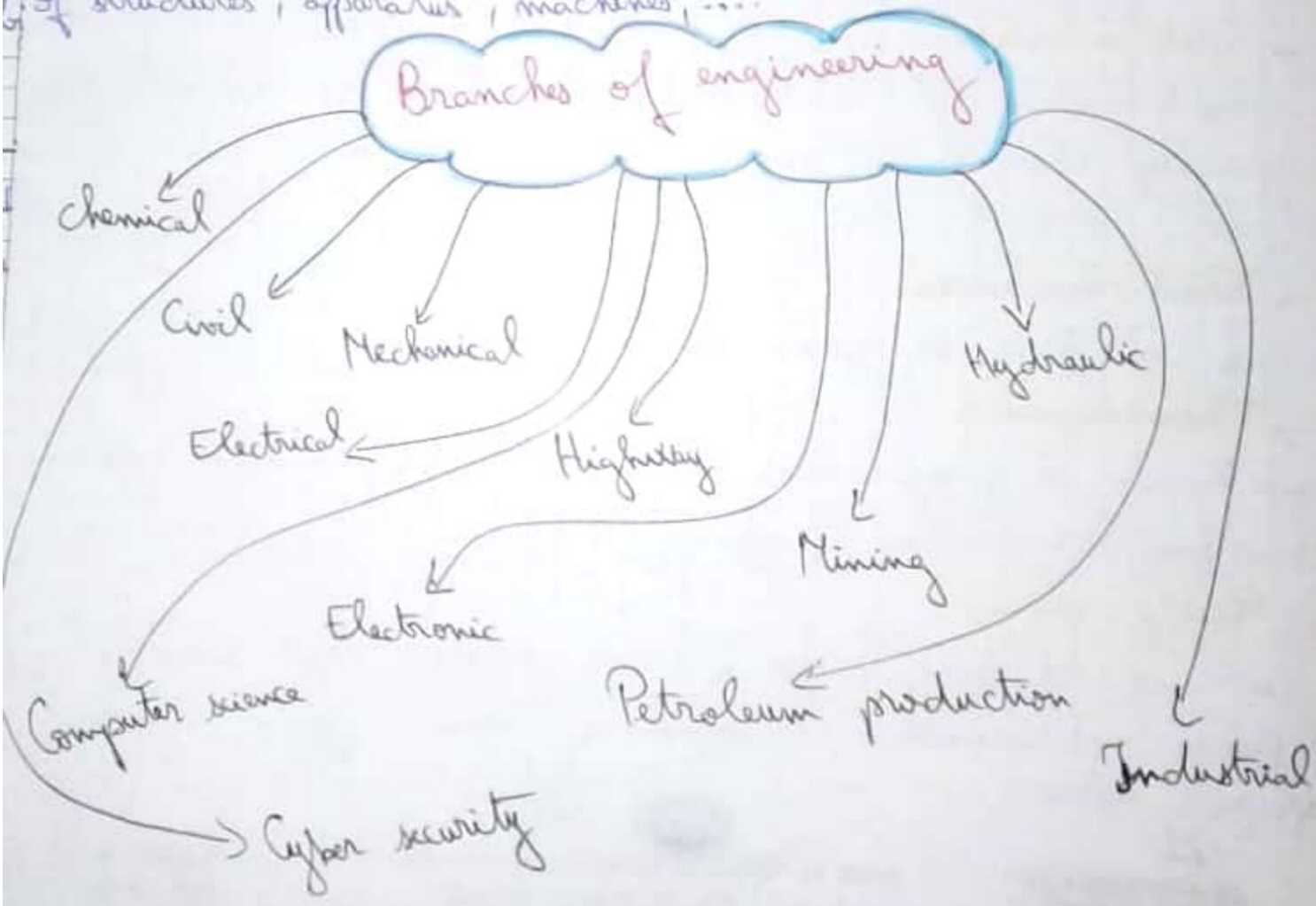
→ System analysis:
↝ A study carried out to help a person or organization to take a better course of action and make a better decision that they might otherwise have made.

Tasks involved in engineering

→ The manufacture / assembly of engines, machine tools, machine parts.

→ It's used to describe the creative application of scientific principles to: design, develop, construct and forecast the behavior of structures, apparatus, machines, ...

Branches of engineering



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Equipment in engineering

• **Boiler:** is a device which burns gas, oil, electricity, or coal in order to provide hot water, especially for the central heating in a building

• **Crane:**

→ a large, tall machine used for moving heavy objects by suspending them from a projecting arm or beam

• **Gas engine:** is an internal combustion engine that runs on a gaseous fuel, such as coal gas, producer gas, or natural gas.

• **Pump:**

→ a mechanical device using suction or pressure to raise or move liquids, compress gases, or force air into inflatable objects such as tyres

• **Turbine:**

→ A machine for producing continuous power in which a wheel or rotor, typically fitted with vanes, is made to revolve by a fast-moving flow of water, steam, gas, air, or other fluid.

Processes in treating metals

Anneal: To make materials tough by cooling them slowly, e.g: glass.

Anodize: To coat a metallic surface with a protective oxide. e.g: car components.

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Electroplate: To cover with a thin layer of metal using electrolysis. e.g: car components.

Forge: To shape metals by heating and then hammering. e.g: horse shoes (hoofs).

Found To melt metal and then pour it into a form. e.g: iron components.

Galvanize To protect from rusting by coating in zinc. e.g: food cans.

Grind To polish or sharpen by rubbing on a rough surface. e.g: stone.

Harden To make a material strong (tough). e.g: steel.

Mint To make a metal piece by stamping. e.g: coins.

Plate To cover with a thin layer of metal using electrolysis. e.g: car components.

Roll To make flat by pressure applied by a roller.

Soften To make something softer, e.g: fibres.

Temper To heat and then cool metals to obtain the required hardness and elasticity, e.g: steel.

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Automotive engineering

- What does an automotive engineer do?

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→ Design new products or modify existing ones.
→ Troubleshoot and solve engineering problems.
→ Plan and design manufacturing process.

Responsabilities of automotive engineers

- Researching, designing, developing and producing vehicles and components (parts).
- Preparing cost estimates and design specifications.
- Preparing plans and drawings.
- Supervise technical staff
- Investigating product failures.
- Analysing energy, environmental and safety aspects of the planned project
- Working with professionals from other occupational fields, such as: "marketing and legal".

Models

- 4 x 4
- Jeep (military)
- Luxury
- Pick-up
- Small family
- Medium
- Executive
- MPV (multi-purpose vehicle)
- Sport
- Mini
- Super-mini
- Truck (camion)
- Van (207)

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Automobile system

Exhaust system:
→ tail pipe, muffler, exhaust manifold.

Support system:
→ Shock absorbers, coil springs.

Engine:
→ engine / intake manifold / differential

Power train:
→ Transmission.

Electrical system:
→ Alternator, distributor, battery.

Coolant system:
→ Coolant reservoir, radiator.

Fuel system:
→ fuel tank, fuel line.

Brake system:
→ Drum brake, brake pedal, disk brake, brake line, master brake cylinder

Features of cars

- (ABS) advanced braking system.
- Air bags
- Air conditioning.
- Alarm: it gives a warning signal if someone tries to break into the car.
- Alloy wheels: made of Al or Mg
- Central locking.
- Climate control
- Electric windows
- Sunroff

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Information Technology "I.T"

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- Definition:

* "I.T" is the use of computers and softwares to manage information.
* Information systems collect, organize, store, process, retrieve and display information in different formats (text, video and voice).
* "I.T" allows very fast automated manipulation of digital data and their transformation from and to computers.

Difference between "CS" and "I.T"

(CS): Computer science

- Efficient programming of computers and maths algorithms
- Build data bases.
- Research specialized designs like "Internet of Things (IO
- Creating efficient data structures, data analytics

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I.T

- Installation of internet networks.
- Installation of hardware and computer suplies.
- Installation and maintenance of systems.

⚠ Some words related to I.T that you may need!

→ Monitor : Screen of the computer.
→ Touchpad : (Tactile)
→ Track ball : Works as a mouse.

- Server : is a computer program or a device that provides fuctionality for other programs or devices.

→ Mainframe : A large high-speed computer, especially one supporting numerous workstations or peripherals.
→ Workstation : 2 screens (computers) used in companies.

Computer devices

Input devices ⟹ C.P.U ⇒ Output devices

C.P.U ⇕ Storage devices

Difference between input and output devices

Input devices

- exp: Keyboard, mouse, scanner, digital camera...

Output devices

- The result of the process data that we see throught devices.
- exp: Monitor, printer, speaker,...

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① Hardware VS ② Software

① • Physical parts of computer are called hardware : monitor, ...
• Touch, see and feel the hardware constructed using physical components.
• Cannot make duplicate copies of hardware.
• Not affected by computer viruses.
• If the hardware is damaged, it is replaced with a new one.
ex : RAM, printer, scanner, monitor, ...

② • Can be transferred.
• Can be affected by viruses.
• You can make duplicate copies of software.
• Cannot touch, see and feel the software.
• Developped by writing instructions in programming languages.
ex : MS-office, media player, adobe acrobat reader, ...

Computer network

→ A network includes :
• Techniques, physical connections.
• Computer programs.

* It's used to link two or more computers.

→ Network users can :
• Share files, printers and other resources.
• Send electronic messages.

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• Network connections:

Bandwidth: • Determines the rate at which information can be transmitted through the circuit. It's measured in Hertz.

• Digital Bandwidth is the amount or volume of data that can be sent through a channel, measured in bits per second

→ Bits per second: - The speed at which information is transferred (bps).

• Optical fiber:

- A fiber optic cable is a network cable that contains strands of glass fibers inside on insult.

• Network operation:

Download / upload:

⇒ Download from the internet.

⇒ Upload to the internet

Internet service provider (ISP):

. A company that provides businesses and consumers with access to the internet.

Wide Area Network (WAN):

. A network linking computers terminals and other equipment over a large area.

Prefisces ⇒
- • Inter: between
- • Intra: within
- • Trans: across
- • co-com-con: with
- • up: up (to internet) / down: down (to intern

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Electronics engineering

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- Definition:

→ Electronics engineers create, design and develop everyday devices such as: mobile phones, portable music devices and computers.

→ They offer the chance to produce new innovations and developments in telecommunications, robotics, computing, equipment.

Some Components

→ Integrated circuit

→ Transistors

→ Resistors

Specific technological advances due to electronics industry

- The introduction of computer-guided robots in factories.
- Systems of storing and transmitting data electronically. ⇒

⇒ copper wires, optical fibers, wireless communication channels

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- Navigation aids for aircraft, automatic pilots and radar for traffic control.

The difference between electrical and electronic engineering

* Electrical engineers *	* Electronic engineers *
• Design, develop, test and supervise the manufacture of electrical equipment, such as: radar, electric motors and navigation systems.	• Design, develop electronic equipment, including b and communications systems, such as: "GPS", portable music player... • They offer the chance to produce new innovation + developments in telecommunications, robotics, computing hardware and power and electrical engineering

Applications of electronic engineering

• Aerospace / Automotive / consumer goods / Energy, power / Industrial equipment / Medical instrumentation / Telecommunication...

PNEUMATIC COMPONENTS

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Typical duties for an electronic engineer

- Using a mix of "science" and "maths", along with engineering techniques, to design, produce, install and maintain telecommunication systems.
- Planning projects and preparing and managing budgets.
- Writing technical reports and keeping up to date with developments in technology and regulations.
- Using computer-assisted engineering (CAE) and design software and equipment to perform engineering tasks.

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Sidi Mohammed Benabdellah University
National School of Applied Science
Preparatory Class 2

Subject : Professional English
Semester : 2
Pr : KHOUMSSI Khawla

The following list will help you to recognize the informal and formal ways of saying the same thing. The list is divided into sections of: verbs, transitions, emphasis words, abbreviations, and slang.

Verbs – Informal & Formal

Informal	Formal
say sorry	apologize, apologise
go up	increase
go down	decrease
set up	establish
look at	examine
blow up	explode
find out	discover
bring about	cause
put off	postpone, delay
rack up	accumulate
make up	fabricate
stand for	represent
find out	discover, ascertain
leave out	omit
point out	indicate
go against	oppose
get in touch with	contact
It's about	It concerns, It's in regards to
need to	required
think about	consider
get	obtain
put up	tolerate
deal with	handle

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Informal	Formal
seem	appear
show	demonstrate, illustrate, portray
start	commence
keep	retain
free	release
get on someone's nerves	bother
ring up	call
show up	arrive
let	permit
fill in	substitute, inform
block	undermine
give the go ahead, greenlight	authorize, authorise

Transitions – Informal & Formal

Informal	Formal
Anyways	Nevertheless
Plus/Also	Moreover/ Furthermore
But	However
So	Therefore/Thus
Also	In addition, Additionally
ASAP	as soon as possible/at your earliest convenience
Okay, OK	acceptable
In the meantime	In the interim
I think	In my opinion,
In the end,	Finally
To sum up	In conclusion,
In a nutshell/Basically	To summarize,

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Informal	Formal
Anyway,	Notwithstanding
All right	Acceptable
Well,	
To top it all off,	
On top of it all,	
	In order to

Emphasis Words – Informal & Formal

Informal	Formal
lots of/ a lot of	much, many
tons of, heaps of	large quantities of, a number of
totally	completely, strongly
really, very	definitely

Letter Expressions – Informal & Formal

Informal	Formal
Hi Robert,	Dear Sir or Madam
Just wanted to let you know…	I am writing to inform you…
Love,	Yours sincerely, Yours faithfully,
Cheers,	
Yours Truly, Best regards, kind regards	
Hope to hear from you soon	I look forward to hearing from you
You can call me if you need anything	Please do not hesitate to contact me

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Abbreviations – Informal & Formal

Informal	Formal
ASAP	as soon as possible
T.V.	television
Photo	photograph
Cell	cell phone
Net	Internet

Slang – Informal & Formal

Informal	Formal
Kids	children
Bad	negative
Good	positive
really big	considerable
Right	correct
Wrong	incorrect
Smart	intelligent
Cheap	inexpensive
Loaded	rich

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Formal Vs Informal English

Are the following sentences FORMAL or INFORMAL? Circle the correct answer.

1. I didn't need any help. formal / informal
contraction.

2. Let's watch some TV this weekend. formal / informal
abbreviation / contraction.

3. We found out when they met up. formal / informal
discover
orrang a meeting.
phrasal verbe

4. Many children in the world lack adequate food and housing. formal / informal
Formal
Kids: informal.

5. I've been under the weather lately. formal / informal
idioms: contruction.

6. I would like to apologize for any inconvenience I may have caused. formal / informal → I'm sorry, it's my bad habbits

7. Furthermore, we have seen the number of units sold increase dramatically. formal / informal
group

8. Lots of kids have dropped their courses this fall. formal / informal

9. Write back ASAP. formal / informal
acronyms.

10. To top it all off, I have an essay to write by Monday. formal / informal

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1. Match the following verbs with the correct definition:

Anneal	to melt metal and then pour it into a form, e.g. iron components
Anodize	to make thin sheets of metal by passing it between large rollers, e.g. steel
Electroplate	to shape metals by heating and then hammering, e.g. horse shoes
Forge	to make materials tough by cooling them slowly, e.g. glass
Found	to make something softer, e.g. fibres
Galvanize	to heat and then cool metals to obtain the required hardness and elasticity, e.g. steel
Grind	to cover with a thin layer of metal using electrolysis, e.g. car components
Roll	to protect from rusting by coating in zinc, e.g. food cans
Plate	to give a metal a protective coat by using it as an anode in electrolysis, e.g. car components
soften	to polish or sharpen by rubbing on a rough surface, e.g. stone
temper	to cover one metal with a thin layer of another, e.g. silver plate

2. Complete the following sentences with a form of the word in brackets.

1. In the chemical industry, chemists develop processes for producing plastics, fibres, medicines, etc. from simple chemicals. (chemistry)
2. Producing steel using the Bessemer process is one of the best-known industrial processes. (industry)
3. Most mechanical devices need oil as a lubricant. (mechanics)
4. Following the earthquake. every building had to be inspected to see whether it had suffered any damage. structural. (structure)
5. Certain chemicals are added to glue to harden it. (hard)
6. ~~Excavators and power shovels are two types of~~ Excavators and power shovels are two types of mining equipment used by miners when they are removing rocks from the ground. (mine)

6

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3. Here is an extract from a speech made by a careers advisor to a group of students choosing their future courses of study at university. Complete the speech by choosing one of the words from the box.

Engineering students shoutd have an understanding of maths, (a) physics and chemistry. Working with pharmaceuticals, food, mineral processing and chemical manutacturing, a (b) chemical engineer is trained to understand, design, control, and investigate material flows. If you enjoy problem solving and find projects such as the Channel Tunnel and the Three Gorges Dam interesting, (c) civil engineering may be for you. You will produce creative designs at an economical price white paying due concern to the environment. If your interest is in road building then you may decide to follow a specialized course in (d) highway engineering. By studying (e) electronic and (f) electrical engineering you learn about the design of complete systems, such as computers, controllers, power and transport systems.
(g) mechanical engineers plan, design and (h) develop a wide range of things: washing machines, cars and spacecraft. (i) production Engineers work very closely with mechanical engineers, to make new products at the right price, on time and in the correct quantity. As well as designing and selecting (j) machines and materials, they also organize people and finance.

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Automotive engineering

Building a car takes a long time - from **research**, through **design** to final **development**. First, researchers need to determine what consumers want, and then suggest what kind of **automobile** to make, During the design phase, new ideas are converted into tangible **parts** or products, At the same time engineers modify existing parts and **features** for the new **model** and draft new plans for the **prototype**. Then manufacturers begin to construct a few prototypes. These are extensively **tested** in **wind tunnels** and **dust tunnels**, factory **tracks, water-proofing bays, desert heat, Arctic cold**, and **crashes**. At the next stage a plant is **set up** to build the new model and the necessary **components**. Product planners monitor the process to□en sure that the new car program finishes on time and within budget. Managers must also coordinate different activities, including producing the cars, purchasing materials, and training the workers. Marketing teams must then sell the car. Every year the major car manufacturers launch their new models, but a single car design can take several years from the **drawing board** to the **showroom floor**. A typical company will therefore have several new designs in various stages of development at any given time.

1. There are several steps in the process of developing a car. Put the following steps in the correct order

7 a. A plant is set up to build the new model. □

3 b. Marketing teams work to promote the new model and the new car is launched. □

2 c. Researchers analyze the answers and suggest the type of car to be built. □

4 d. Engineers work to modify existing parts for the new model. □

1 e. Customers are asked questions about the sorts of features they would like in a car.

8 f. Product planners make sure that the new car is ready on time. □

6 g. Tests are carried out in different conditions.

5 h. A prototype is built.

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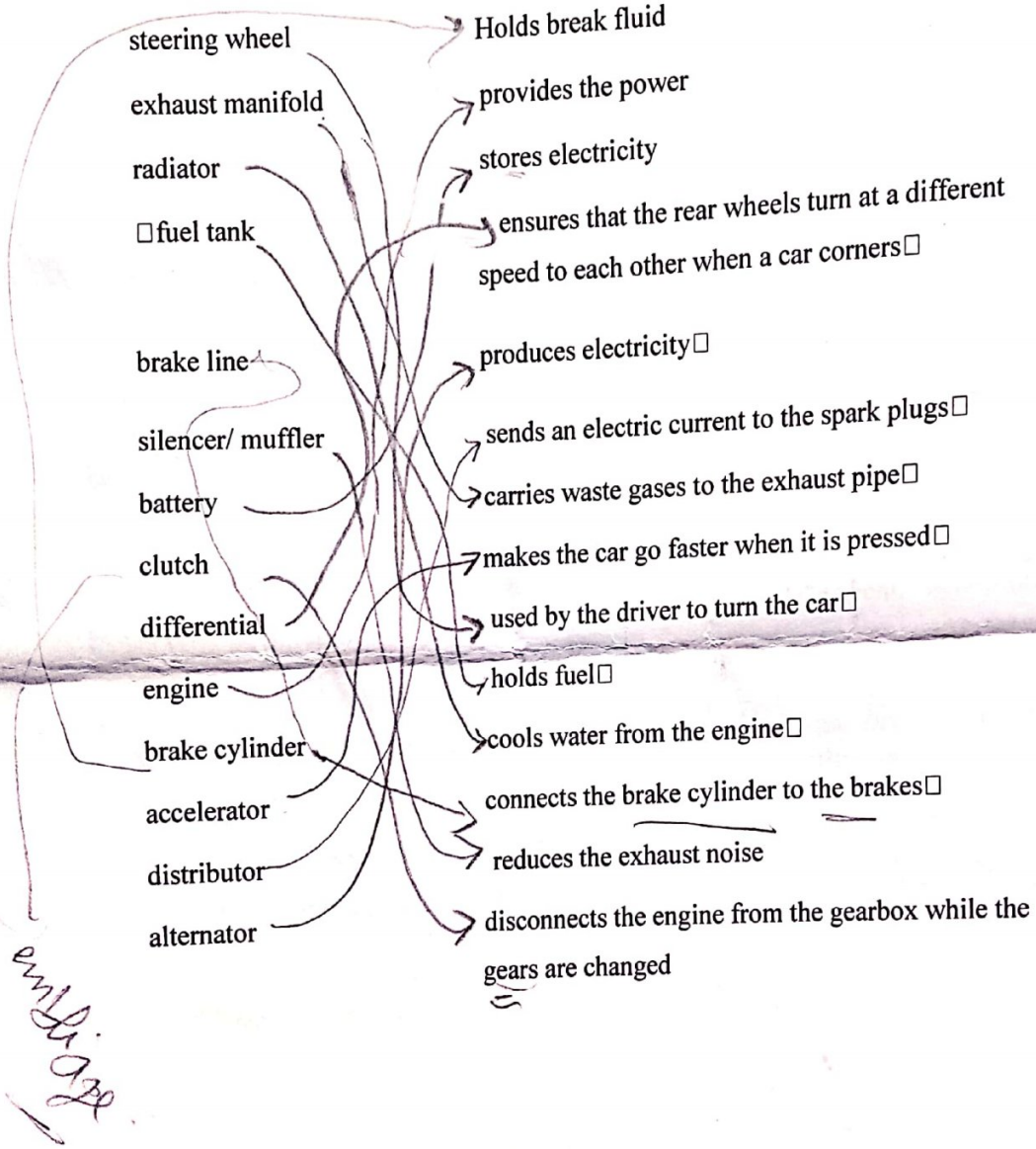
3 i. Designers work to design a new car based on these suggestions. □

2. Match the part of the car with its function.



steering wheel	Holds break fluid
exhaust manifold	provides the power
radiator	stores electricity
□fuel tank	ensures that the rear wheels turn at a different speed to each other when a car corners□
brake line	produces electricity□
silencer/ muffler	sends an electric current to the spark plugs□
battery	carries waste gases to the exhaust pipe□
clutch	makes the car go faster when it is pressed□
differential	used by the driver to turn the car□
engine	holds fuel□
brake cylinder	cools water from the engine□
accelerator	connects the brake cylinder to the brakes□
distributor	reduces the exhaust noise
alternator	disconnects the engine from the gearbox while the gears are changed

emblage

adictionnary

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3. Here is a newspaper article reviewing a new small family car. Fill in the blanks with words from the vocabulary discussed in class. The first letter is given to help you.

Launched soon after their competitor's failure, the new LOTE A1 is the perfect car for Mum, Dad and two kids. Just back from it's (a) t ent in the heat of the (b) d esert and the cold of the Arctic, the LOTE is the perfect small (c) f amily car. the interior is classy and comfortable with surprisingly good leg room in the back. The (d) a ir conditioning is highly efficient for the heat of summer, but if you prefer the carefree image, you can open the (e) s unroof. There should be no arguments about how far to open the windows as the driver has full control of the (f) e lectrical windows in the back, and of course, (g) c entral locking saves telling the kids to lock their doors.

Driving this little beauty is a real pleasure. (h) P ower a ssisted steering makes those corners easy and the (i) a dvanced braking system will stop you comfortably in those tight moments. Safety is also high on the agenda here with fitted (j) a irbag for the front passenger as well as the driver. A car (k) a larm is fitted as standard and an (l) i mmobilizer. will prevent someone starting the car without your permission.

It's a great-looking vehicle, bigger than the (m) m edium, less roomy than the (n) p ick-up people c arrier. but faster than a v an! With aluminum (p) a lloy wheels and a price that's less than anything else in this range, it's one that's hard to beat.

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Grammar: Simple Past versus Present Perfect

Scientific and technical texts in English frequently use the present tense, since in most cases they state facts. Sometimes, the present perfect and simple past have to be used, as the text about the historical development of materials science shows.

Formation of the Simple Past

Use the so-called second form of the verb write – wrote – written□She wrote the second proposal last month.

Formation of the Present Perfect

Use have/has + the third form of the verb (the past participle). write – wrote – written□She has just written the second proposal.

4 Chapter 1 Introduction

Use of the Simple Past□Use the simple past for actions in the past that have no connection to the present and when

the time of the past action is important or shown.□Signal words are yesterday, last Thursday, two weeks ago, in November 1989

Use of the Present Perfect□Use the present perfect for actions in the past with a connection to the present and when the

time of the past actions is not important.□Use the present perfect for recently completed actions and actions beginning in the past and

continuing in the present.□Signal words are: just, never, ever, yet, already, recently, since, for, so far, up to now

Task 2. Work with a partner. Fill the gaps in the sentences with the verbs in their correct tense (present perfect or simple past).

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Materials always played (always play) a major role in the development of societies. Civilizations designated (designate) by the level of their materials development. The earliest humans had (have) access to only a very limited number of materials.

The microstructure of a metal was (be) first revealed in 1864 by the Englishman Henry Sorby who developped (develop) a technique for etching the surface layer of a polished metal. Modern techniques such as x-ray diffraction, transmission electron microscopy (TEM) and scanning electron microscopy (SEM) made (make) it possible to better understand their characteristics.

By now, more than 50,000 materials have develop (develop). Materials scientists have long envied (long envy) the resilience of certain naturally occurring materials. Past efforts to reproduce the architecture of, e.g. a shell wouldn't succeed (not be successful).

To copy the microstructure of the shell, the researchers mixed (mix) water with finely ground ceramic powder and polymer binders.

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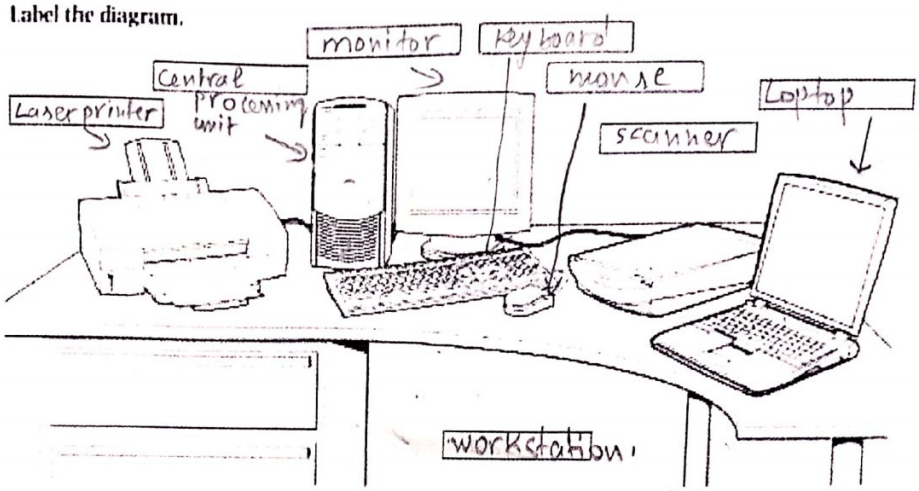
TASKS

1 **Label the diagram.**



2 **Combine one word from A and one word from B and match it with the appropriate definition in C.**

A	B	C
create	products	a monitor will do this on a computer screen
central	information	this describes the format of 0 and 1 in which information is stored
software	processing unit	these enable a computer to perform word processing, to create databases, and to manipulate numerical data
display	card	when two or more components are combined and then incorporated into a single package
digital	files	to make new programs, utilities or documents
expansion	network	a group of electronic machines connected by cables or other means which can exchange information and share equipment (such as printers and disk drives)
integrated	data	the principal microchip that the computer is built around
computer	circuits	you plug this into a slot to add features such as video, sound, modem and networking

3 **Complete each gap in the following text with a phrase from the table above.**

1 The computer monitor will display information so you can see it on screen.

2 Information is stored on a computer as Digital data.

3 Spreadsheet and graphic software are examples of software products

4 Digital communications and integrated circuits have allowed developments in hardware to be made

5 In order to organise data you should Create files where you can store data.

6 When several computers are linked together you have a computer network.

7 The part of the computer which interprets and carries out instructions is the central processing unit

8 An expansion card can be inserted in your computer to give your computer extra capabilities.

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TASKS

1 **Choose the correct word in each of the following.**

1 The speed with which a modem can process data is measured in bits per second (bps)
a) bandwidth b) bits per second (bps) c) signal

2 Cables consisting of several copper wires each with a shield are known as twisted pair cables.
a) twisted pair b) optical fibre c) power cables

3 Computers that are connected together within one building form a LAN.
a) WAN b) ISP c) LAN

4 If you transfer a file from a remote computer to your computer, you download.
a) download b) upload c) run

5 To send out information is to transmit.
a) signal b) packet c) transmit

6 A document containing information and graphics that can be accessed on the internet is the world wide web.
a) a website b) a web page c) the World Wide Web

2 **Complete the words in the following sentences by adding the prefix *inter-, intra-, trans-, com-, con-, up- or down-*.**

1 Last month computer downtime cost the company over €10,000 in lost production.
2 The computers in the production department have now been successfully interconnected with those in the planning department.
3 Once you have completed payment details the data will be transmitted via a secure link.
4 We cannot network these computers because the systems are not compatible.
5 Many companies distribute internal documents on their own intranet.
6 Once the home page has been completed, we'll be ready to upload the site.
7 Cables are being laid throughout the building as the network requires physical connections.
8 Using the network he was able to combine the data from different reports.

3 **Here is a list of instructions for someone wanting to set up a small network. Put the instructions in the correct order.**

(8) a Make wiring and layout plans for your network.
(6) b Hook up the network cables by connecting everything to the hub.
(9) c Check that each computer has an IP address and give it a name.
(4) d If you're installing a small network, twisted pair will be adequate. However, in order to span greater distances and to minimize magnetic and electrical interference use fibre optic cable.
(7) e Decide on the type of network you want to install. To enable you to transfer large amounts of data, choose Fast Ethernet (100BaseT).
(5) f Install network adapters in the computers.
(10) g Add an internet gateway to your network to set up a shared internet connection.
(7) h Install driver software for the adapter driver and install client software to share printers and files.
(8) i Check which protocols are installed and add any other protocols you require.
(3) j Get the hardware you need: an Ethernet adapter card for each computer that doesn't have an Ethernet port, a hub if you've got more than two computers, cables and wall jacks.

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Scope and responsibilities

Senior Electronics Designer Engineer

The Senior Electronics Designer Engineering will be responsible for enhancing and supporting the entire electronical design processus, including, but not limited to:

- electronical product development from design to production release
- electronical design, analysis and testing of old products from product specification, producing electronical prototypes and preparation of all unnecessary design documentary tion.
- Firmware design for electronic devices electronical circuit design and broad layout for very small devises and instruments
- Accurate projection and design documentary tion
- Interfacing closely with marketing to create and develop products according to costomer needs
- interacting with contract engineers that support developing and maintain vendor section and involvement to ensure the lowest quality products.
- obtaining necessary product disapprovals and communicating progression throughout the design process
- providing technical support for new and existing products in manufacturing and in the field.
- producing design schedules
- stafing and operating an electronics lab

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TASKS

1 Put these words and phrases into one of the three categories below.

develop solutions • transportation systems • robot • automotive industry
transmit data • diagnose problems • radio • pharmaceutical industry
evaluate results • television • provide support • chemical industry
altimeter • defence • computer

devices	functions	applications
robot radio altimeter television computer	develop solutions transmit data provide support evaluate results diagnose probs	transportation sys ~~defence~~ pharma chemical defence automotive industry

2 Choose one word from A with one word from B to complete the sentences below.

A	B
space	computer
computer-guided	goods
satellite	robots
consumer	technology
navigation	communications
personal	aids

1 space tech has enabled people to survive in space.
2 Communications systems for aircraft and ships are dependent on navigation aids
3 Many people today have their own personal computers at home.
4 Industrial processes have been made more efficient through the use of computer-guided robots.
5 Ships and aircraft require satellite communic to find their way.
6 consumer goods such as washing machines and dishwashers contain electronic circuits.

3 Here are two extracts from advertisements for jobs in electronics. Complete them with words from the box.

architecture • repair • examined • technicians • instrumentation • medical

(a) medical **Electronics Technician**

The Biomedical Engineering Department provides electronic and mechanical engineering as well as ITU support to different specialties within the hospital. We are looking for (b) technicians to join our team of engineers. You will be involved in the management, (c) repair and maintenance of the hospital's highly sophisticated medical electronic (d) instrumentation. You will be required to work unsupervised in maintaining complex systems and equipment.

There have been great changes in crime and in its detection over the past ten years as a result of technological advances. Computers and mobile phones have become more common and, as a result, criminal activity involving them has also risen. Computers and SIM cards are (e) examined in our department to recover data that is required in criminal investigations.

You will have knowledge of electronic (f) architecture of computers, PDAs or mobile phones and possibly an understanding of computer operating systems.

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